



## Investigate the Relationship between Institutional Ownership in Tehran Stock Exchange

**Mohammad Reza Pourhosein<sup>1\*</sup>, Ahmad Aghazadeh Kama Kol<sup>2</sup>, Bahram Molaheidari Vishkaii<sup>3</sup>,  
Fatemeh Pouraskari Jourshari<sup>4</sup>**

<sup>1</sup>Department of Accounting, Payame Noor University, Behshar City, Iran, <sup>2</sup>Department of Business Finance Trends, University of Tabriz, Iran, <sup>3</sup>Department of Accounting, Payame Noor University, Behshar City, Iran, <sup>4</sup>Department of Business Administration Finance Trends, Guilan University, Iran. \*Email: [MohammadReza\\_Pourhosein@yahoo.com](mailto:MohammadReza_Pourhosein@yahoo.com)

### ABSTRACT

In this research the relationship between institutional ownership and profit sharing policy with price efficiency and fluctuation in Tehran's stock exchange is studied. Data extraction is done by Rahavard-Novin software and research data analyze is also done by E-views software. research result indicates that there is a significant relationship between institutional ownership and stock price fluctuation in accepted firms at Tehran's stock exchange is approved and the main hypothesis is rejected, and there is a significant relationship between institutional ownership and stock returns in accepted firms at Tehran's stock exchange is approved and the main hypothesis is rejected and also the existence of a significant relationship between institutional ownership and profit sharing returns in accepted firms at Tehran's stock exchange is rejected and the main hypothesis is approved.

**Keywords:** Institutional Ownership, Shared Dividend Policy, Stock Return, Stock Price Volatility

**JEL Classifications:** E44, G23

### 1. INTRODUCTION

The study and survey of factors affecting fluctuation of stock returns can be useful at making capital market decisions its result is usable for stock participants including financial institutions, firm's managers, economic system observers and ordinary investors (Benayed and Abaoud, 2006). on the other side, nowadays the role of institutional investors as transfer of funds intermediate and savings in capital market and resource management in financial markets of other countries has become more important day by day, so that institutional investment transactions increasing in global stock markets since the late 1980s, have led to increasing the attentions of financial analysts to study effects of these institutions on changes in stock prices, so that institutional investors can be considered as a group of company shareholders that have role on price changes and subsequently on profit fluctuation. There are different opinions about the relationship between institutional investors and fluctuation of stock returns. Some researchers believe that institutional investors treat massive-like and tend to use positive feedback trading strategic (Deangelo, 2006) so, their

performance can be lead to self-autocorrelation and fluctuation in stock price so that fluctuation of stock returns can be seen despite these kinds of investors. Information asymmetry and agency theory are two theory that used in companies at linking the necessity of establish corporate governance. According to mentioned articles, the main research question is that if institutional ownership, concentration of ownership on stock returns and stock price fluctuation has effect (Frankfurter & wood, 2002).

### 2. PROBLEM STATEMENT

In this research the relationship between institutional ownership effect on stock price fluctuation, stock returns and profit sharing policy and also effect of profit sharing policies toward the relationship between institutional ownership and stock price fluctuation in Iran are surveyed. In recent decades the actions of investment in shares and exchanges of institutional investors had a significant increase. institutional investors are including foreign institutional investors, fund joint venture, retirement benefits funds, insurance companies, banks and etc. institutional ownership

is equal to percentage of shares held by governmental and public corporations from total capital stock which is including insurance companies, financial institution, banks, governmental companies and other components of government (Emaeili, 2006). Generally there are two conflicting views sub field of relationship between institutional ownership and profit sharing policy. In the existence of conflict of interest, exterior monitor activities are an important control element. Institutional shareholders are considered as a group of foreign monitors. If divided profit will pay to decrease agency costs, it should be alternative relationship between dividing profit policy and institutional ownership. This relationship will cause the existence of negative relationship between institutional owner shares percentage and dividing profit policy (Truong and Heaney, 2007). Motivations of institutional investors in field of free cost riding regulatory activities, causes this group of investor not willing direct monitor by themselves. These investors force companies to increase divided profit rather than direct monitoring. In the other words institutional investors prefer free cash flow decrease. Volatility of stock returns and factors affecting are controversial subjects in financial researches (Shahnazarian, 2006). Institutional investors as a group of investors have an important role in economic development of the capital market by accessing financial resources. On this basis, study the role of institutional investors at fluctuation of stock returns has a great importance. This research is seeking evidences about relationship between institutional investors and fluctuation of stock returns. Fluctuation of stock returns is one of the financial controversial subjects that is considered by researchers of capital market in emerging markets in recent years. The reason of this trend is for the relationship between fluctuation of price and consequently its effect on financial sector performance and also economic (Weigand and Baker, 2009).

### 3. RESEARCH PURPOSES

#### 3.1. The Main Purpose the Study

The main purpose this research is the effect of institutional ownership and shared dividend policy on stock return and stock price volatility.

#### 3.2. The Secondary Purposes the Study

Evaluation of the relationship between institutional ownership and stock price volatility in companies listed on the Tehran stock exchange.

Evaluation of the relationship between institutional ownership and stock returns in companies listed on the Tehran stock exchange.

Evaluation of the relationship between institutional ownership and shared dividend rate in companies listed on the Tehran stock exchange.

### 4. HYPOTHESES

H<sub>1</sub>: There is a significant relationship between institutional ownership and stock price volatility in companies listed on the Tehran stock exchange.

H<sub>2</sub>: There is a significant relationship between institutional ownership and stock returns in companies listed on the Tehran

stock exchange.

H<sub>3</sub>: There is a significant relationship between institutional ownership and shared dividend rate in companies listed on the Tehran stock exchange.

## 5. RESEARCH METHODOLOGY

This research is applicable in terms of goal and is a scientific survey in terms of the method of collecting data. According to the subject of research and its studied variables, needed data to test assumptions is achieved by referring to existing data banks in Rahavard-Novin software. In the other words, data used in this research is of second-hand data. Time period to gather data is 2008 to 2012 financial year.

In the other words the type of research is surveyed from following three aspects.

#### 5.1. Research Methodology in Terms of Purpose

This research is applicable in terms of goal and can be used with available methods and models toward improving the situation of other organizations and companies accepted in stock exchange.

#### 5.2. Research Methodology in Terms of Deduction Method

This research is descriptive in terms of deduction method and statistical society of companies accepted in stock exchange during 2008-2012 will be surveyed.

## 6. STATISTICAL SOCIETY

Statistical society is a collection of individuals or units which are at least common in one feature. In this research, according to its subject and usage research population includes all companies accepted in Iran capital market except investment firms, insurances and banks as they were continuously active in stock exchange from 2008 to 2012. It should be noted that almost number of all stock companies is 587 until the end of 2012 financial year which will be shown on the main board.

## 7. SAMPLE SIZE AND SAMPLING METHOD

After choosing research subject and problem statement, one important decision faced each researcher is sample selection, sample which must be representative the community that researcher wants to extend his findings to that population. Sample is a part of population that is being surveyed and will be selected by a predetermined way. So that it can be achieved deduction about the whole community from this section. Selecting some people, evident and things from a defined community as the representative of that community is the first step in community define sampling for considered community and the goal is a kind of sampling that all members of community have same chance to be selected.

Companies investigated will be select on the basis of follow conditions:

1. The company was accepted in stock exchange after 2008.
2. The company doesn't be a holding, finance and insurance, services and financial intermediation company.
3. To increase comparability, financial period should be leading to the end of the March and company doesn't have changes in financial period and stop in operation for related years.
4. Company doesn't have revaluation assets during research.
5. Data is needed for research be readily available.

**7.1. Sampling Method**

In this research 107 from 585 company are selected by elimination systematic sampling method.

**8. RESEARCH MODEL AND THE METHOD OF MEASURE VARIABLES**

The model which used to test available hypothesis in this research is:

$$Risk_{it} = \alpha_0 + \beta_1 Performance_{it} + \beta_2 Debt_{it} + \beta_3 M/B_{it} + \beta_4 Size_{it} + \beta_5 Owner_{it} + \epsilon_{it}$$

$$Return_{it} = \alpha_0 + \beta_1 Performance_{it} + \beta_2 Debt_{it} + \beta_3 M/B_{it} + \beta_4 Size_{it} + \beta_5 Owner_{it} + \epsilon_{it}$$

$$DR_{it} = \alpha_0 + \beta_1 Performance_{it} + \beta_2 Debt_{it} + \beta_3 M/B_{it} + \beta_4 Size_{it} + \beta_5 Owner_{it} + \epsilon_{it}$$

**9. INFERENCE STATISTICS**

**9.1. Jarque-Bera Test**

To survey dependent variable distribution normality, Jarque-Bera test is used. This test is done to research dependent variable, and result indicates non-normality of dependent variable distribution. Jarque-Bera test output at E-views software for this variable is shown in Table 1.

- $H_0$ : Data are normal.
- $H_1$ : Data aren't normal.

$H_0$  in this research is homogeneity of observations distribution with specific theoretical distribution (with certain parameters) that we have defined it by guessing and the opposition hypothesis is the unfavorable distribution for the variable.

*9.1.1. First method of judgment*

If significance level is more than 0.05 indicates that observed distributed is related with theoretical distribution.  $H_1$  hypothesis

**Table 1: The results of Jarque-Bera Test**

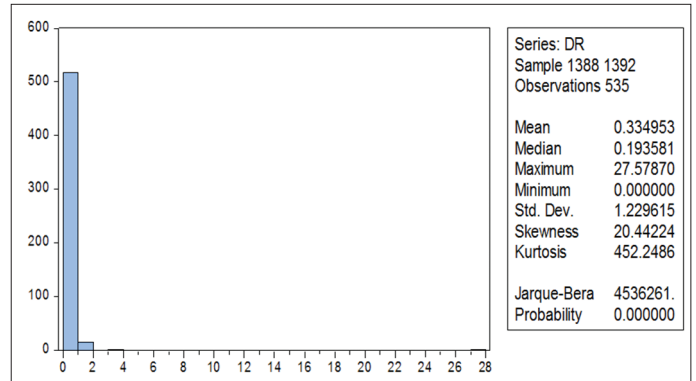
Variables	RISK	DR	RETURN
Observations	535	535	535
Normal parameters			
Average	1.192285	0.334953	0.323541
Middle	1.240531	0.193581	-0.092517
Standard	0.191127	1.229615	1.763039
Jarque-Bera	758.9177	4536261	190708.5
P value (significant)	0.000	0.000	0.000

is accepted and  $H_0$  hypothesis will be rejected, it means data do not follow normal distribution.

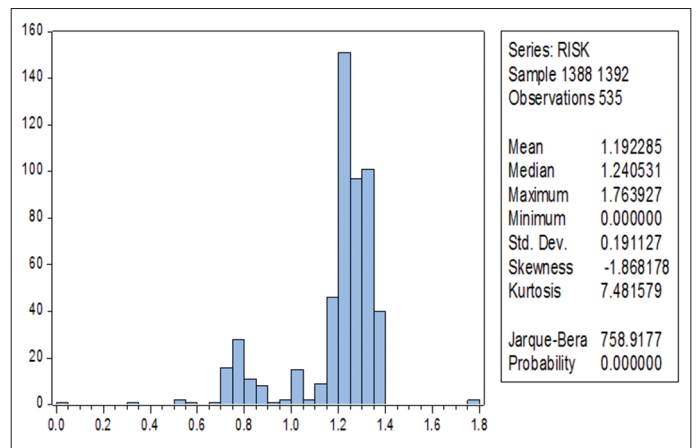
To normalize dependent variable that shown in Figures 1-3 we use Johnson transformation by follow formula which  $\lambda$  is a constant number and by inserting it in the formula, will define type of the appropriate conversion to normalization variables that show in Figures 4-6 and (Bayazidi et al., 2010).

$$z = \gamma + \eta \tau(x; \epsilon, \lambda); -\infty < \gamma < \infty, -\infty < \epsilon < \infty, \eta > 0, \lambda > 0.$$

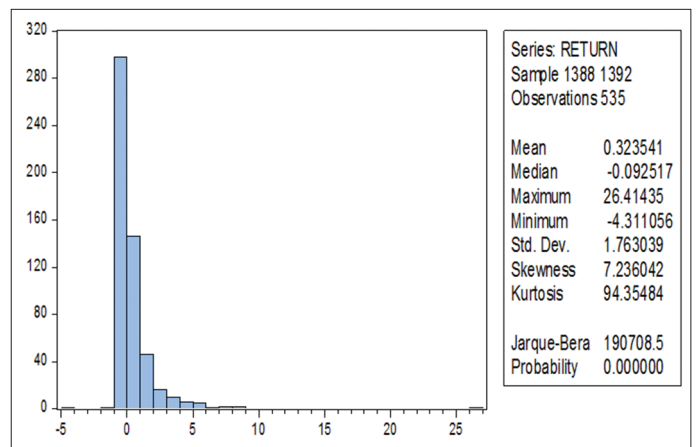
**Figure 1: The non-normality of variables DR**



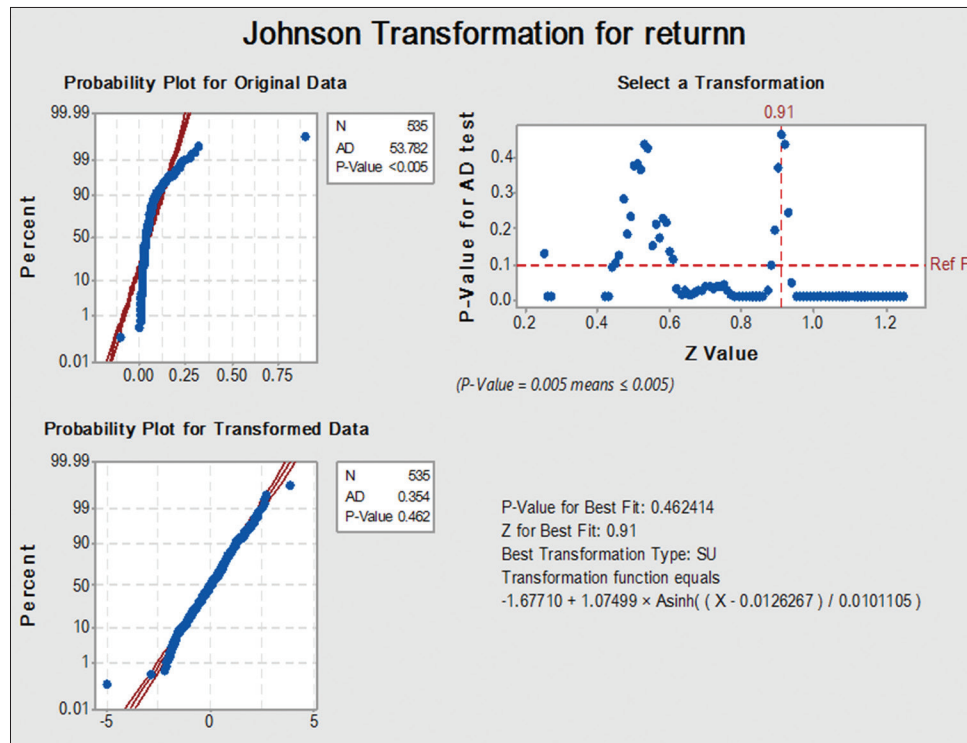
**Figure 2: Non-normality of variables risk**



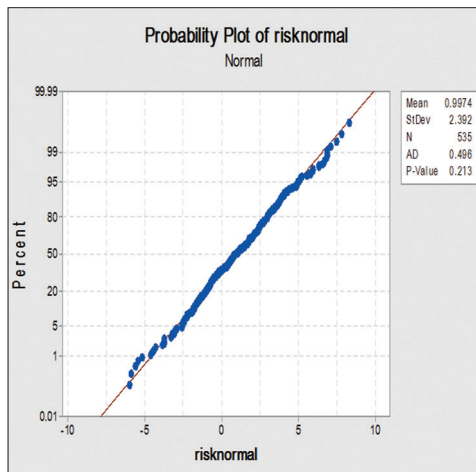
**Figure 3: Non-normality of variables return**



**Figure 4:** Normalization variable of return Johnson's converting in the minitab



**Figure 5:** Normalization variable of risk Johnson's converting in the Minitab



**Table 2: Jarque-Bera test after the conversion**

Variables	RISK	DR	RETURN
Observations	535	535	535
Normal parameters			
Average	0.99	0.25	0.09
Middle	0.94	0.19	0.09
Standard	2.39	1.08	1.03
Jarque-Bera	1.05	2.33	0.19
P value (significant)	0.58	0.31	0.90

In this research different  $\lambda$  are used for this variable including 0.1 in Minitab software.

After applying transformations, Jarque-Bera test results are in Table 2.

**9.1.2. Second method of judgment**

If significance level is more than 0.05 indicates that observed distributed is related with theoretical distribution.  $H_1$  hypothesis is rejected and  $H_0$  hypothesis will be accepted, it means data follow normal distribution in Figures 7-9.

**10. REASONS OF SELECTING STATISTICAL METHODS**

In the other words, we use panel - pool regression to survey effectiveness of the independent variables on dependent variables according to significant level of Limber test (chow). In this test when significant level is lower than 0.05 we use panel regression (panel) to fit model, fitting panel is like random effects and fixed effect. According to Hausman, random fitting and fixed fitting is used, in this research random fitting is used when level of significance is more than 0.1.

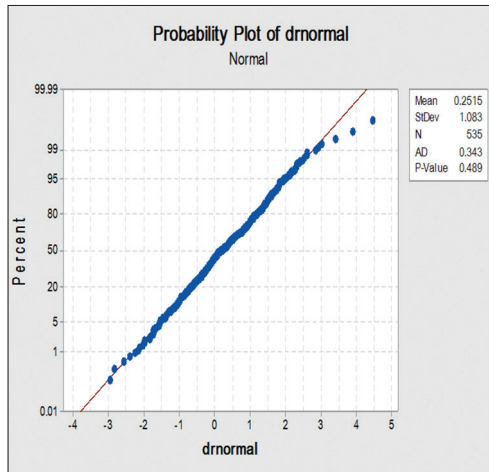
**10.1. Default Regression Model**

1. The suitability test of model
2. The lack of autocorrelation test of variables (Durbin-Watson)
3. The stationary test of variables
4. The identification test of panel regression (Chow test)
5. The identification test of panel regression with random or fixed effects (Hausman test).

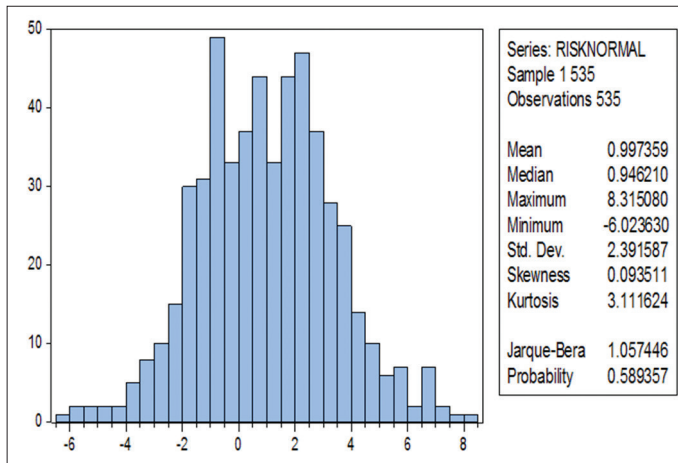
**11. THE SUITABILITY TEST OF FIRST MODEL**

Regression variance analysis results to survey existence of liner relationship between independent variables and the dependent

**Figure 6:** Normalization variable of Dr. Johnson's converting in the Minitab



**Figure 7:** Variable risk after normalization



variable and significant of whole regression model.  $H_0$  hypothesis and opposite hypothesis are also as following.

- $H_0$ : Regression model isn't significant.
- $H_1$ : Regression model is significant.

**11.1. Method of Judgment**

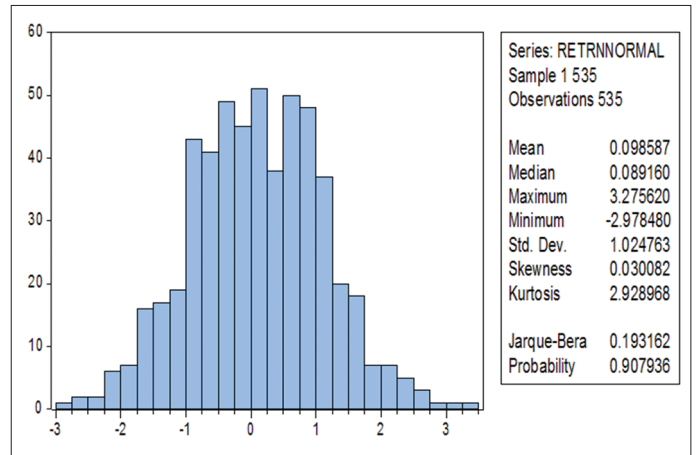
If in 95% confidence level (error of  $\alpha = 5\%$ ) calculated statistic f from regression equation is lower than achieved F of figure,  $H_0$  hypothesis can't be rejected otherwise  $H_1$  will reject. it's clear that if  $H_0$  is rejected, regression equation will be significant.

According to results in Table 3 since the significant level with f statistics is equal to 144.10 and  $<5\%$  so  $H_0$  hypothesis is rejected and  $H_1$  hypothesis will accept based on significant of whole regression model.

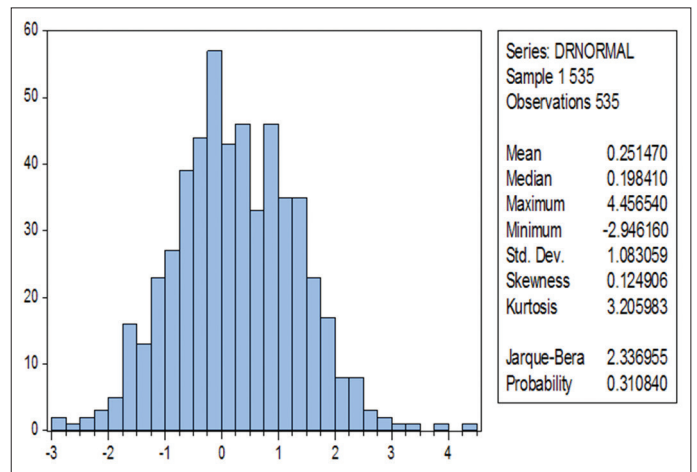
**12. DURBIN-WATSON TEST**

Durbin-Watson test will test serial correlation between remained (errors) of regression based on this  $H_0$  hypothesis:

**Figure 8:** Variable return after normalization



**Figure 9:** Variable return after normalization



- $H_0$ : There is not self-correlation between errors.
- $H_1$ : There is self-correlation between errors.

If Durbin-Watson statistic be among 1.5 and 2.5, test of  $H_0$  hypothesis (none self-correlation between errors) will be accepted and otherwise  $H_1$  is confirmed. Durbin-Watson statistic with correlation coefficient, determination coefficient, justified determination coefficient and standard error is like Table 4.

According to mentioned figure, Durbin-Watson statistic is 2.14 for research hypothesis regression model that is out space of 1.5 and 2.5. So  $H_0$  hypothesis is confirmed based on absence of self-correlation between errors.

**13. STATIONARY VARIABLES TEST**

At this stationary or stability part of research variables are surveyed. Results of this testis show at Tables 5 and 6.

- $H_0$ : There is not unit root (variable is not stationary)
- $H_1$ : There is unit root (variable is stationary).

### 13.1. Method of Judgment

After calculating this statistics, if calculated statistics is less than table statistics,  $H_0$  hypothesis will be rejected and  $H_1$  hypothesis will confirm based on existence of unit root (stability). According to test result of IPS test, since P is <5% for all variables, so these research variables were at sustainable level during research.

## 14. CHOW TEST

Results of F test for recent research regression model are shown at following figure.  $H_0$  and opposite hypothesis are also as follows:

$$\left\{ \begin{array}{l} H_0: \text{Integrated model is suitable} \\ H_1: \text{Panel model is suitable.} \end{array} \right.$$

### 14.1. Method of Judgment

If at 95% confidence level (error of  $\alpha = 5\%$ ) the calculated statistics F from regression equation is less than F achieved from figure,  $H_0$  hypothesis can't be rejected and otherwise  $H_1$  will be rejected that show at Table 7.

According to mentioned results F statistic of research regression models is 1.92 that is significant at 99% confidence level; in this way, it can be concluded  $H_0$  hypothesis (integrated model) will reject and panel model will confirm.

## 15. HAUSMAN TEST

After determining that intercept (latitude from the era) is not same for different years, method of using at model estimate (fixed and random effects) should be determined and Hausman test is used for this purpose.  $H_0$  and opposite hypothesis are also as follow:

$$\left\{ \begin{array}{l} H_0: \text{Panel model is suitable with random effects} \\ H_1: \text{Panel model is with fixed effects.} \end{array} \right.$$

### 15.1. Method of Judgment

If at confidence level of 95% (error of  $\alpha = 5\%$ ),  $\chi^2$  statistics calculated from regression equation is lower than  $\chi^2$  achieved from figure,  $H_0$  hypothesis can't be rejected otherwise  $H_1$  is rejected.

Hausman test results for regression model is 42.97 that its significant level is <0.1 so results indicate acceptance of  $H_1$  so according to Hausman test fitting regression model of this research by estimating data panel model with the method of fixed effects will be suitable that show at Table 8.

## 16. RESULTS OF FITTING REGRESSION MODEL

In this research below regression model is used to test assumptions:

$$\text{Risk}_{it} = \alpha_0 + \beta_1 \text{Performance}_{it} + \beta_2 \text{Debt}_{it} + \beta_3 \text{M/B}_{it} + \beta_4 \text{Size}_{it} + \beta_5 \text{Owner}_{it} + \epsilon_{it}$$

**Table 3: Output of regression variance analysis**

The sum of squares error	F	Significant
0.286	144.10	0.000

**Table 4: Errors independence test**

Regression model	N	Coefficient of determination	Adjusted coefficient of determination	Standard regression	DW
	96	0.981	0.974	0.03	2.14

**Table 5: Dickey-Fuller unit root test**

Variables	ROE	ROA	DEBT	BMB	Size
W-statistical	-22.18	-8.87	-9.51	-12.11	-7.21
P value	0.000	0.008	0.000	0.000	0.000

**Table 6: Dickey-Fuller unit root test for variables**

Variables	OWNER	RISK	RETURN	DR
W-statistical	-7.71	-5.05	-24.55	-22.69
P value	0.000	0.008	0.000	0.000

**Table 7: The results of Chow test**

Regression model	N	F	P	Results
	96	1.92	0.000	Reject of $H_0$

**Table 8: The results of Hausman test**

Regression model	N	$\chi^2$	P	Results
	96	42.97	0.000	Reject of $H_0$

After testing regression assumptions, results of fitting regression model is provided. F statistic (144.10) indicates the significant of whole regression model. As has been shown, determination coefficient and justified determination coefficient of mentioned model is 98.1% and 97.4%. So it can be concluded in aforementioned regression equation, only 98.1% of risk change in investigated companies will determine by independent variables and mentioned control. In this table positive (negative) numbers at coefficient column shows amount of direct (reverse) impact of each variables on investigated company's risks.

It should be noted that the following model when it was fitted by random effect, Durbin-Watson statistic (0.84) didn't confirm non self-correlation errors, to eliminate non self-correlation errors, it is sufficient to inter dependent variable at model by an interruption that in this case, Durbin-Watson statistic was changed to 2.14 that show at Table 9.

$$\text{Risk}_{it} = \alpha_0 + \beta_1 \text{Performance}_{it} + \beta_2 \text{Debt}_{it} + \beta_3 \text{M/B}_{it} + \beta_4 \text{Size}_{it} + \beta_5 \text{Owner}_{it} + \epsilon_{it}$$

### 16.1. Method of Judgment

According to amount of F statistic and achieved significant level, if significant level is <0.05% independent variable's coefficient will be meaningful so that if absolute value of F statistic which calculated by statistics software is greater than t of table with degrees of freedom at 5% significant level,  $H_0$  hypothesis will be

rejected. Rejection of  $H_0$  means significance of the independent variable's impact on dependent variable.

### 17. THE SUITABILITY TEST OF SECOND MODEL

Regression variance analysis shows the significance of whole regression model in order to survey existence of liner relationship between independent variables and dependent variable.  $H_0$  hypothesis and opposite hypothesis are as follow:

- $H_0$ : Regression model is not significant
- $H_1$ : Regression model is significant.

#### 17.1. Method of Judgment

If at 95% significant level (error of  $\alpha = 5\%$ ) calculated F statistic from regression model is less than F,  $H_0$  hypothesis cannot be rejected and otherwise  $H_1$  will be rejected. It is clear that by rejecting  $H_0$ , regression equation will be significant that show at Table 10.

According to above results since the significant level with F statistic is 1.22 and  $<5\%$ . Thus,  $H_0$  hypothesis is rejected and  $H_1$  hypothesis will be confirmed based on significance of whole regression model.

### 18. DURBIN-WATSON TEST

Durbin-Watson test will test serial correlation between remained (errors) of regression based on this  $H_0$  hypothesis:

- $H_0$ : There is not self-correlation between errors
- $H_1$ : There is self-correlation between errors.

If Durbin-Watson statistic be among 1.5 and 2.5, test  $H_0$  hypothesis (none self-correlation between errors) will be accepted and otherwise  $H_1$  is confirmed. Durbin-Watson statistic with correlation coefficient, determination coefficient, justified determination coefficient and standard error is shown in Table 11.

According to mentioned figure, Durbin-Watson statistic is 2.08 for regression model of this research which is out of the space of 1.5 and 2.5. So  $H_0$  hypothesis is confirmed based on absence of self-correlation between errors.

### 19. CHOW TEST

Results of f test for recent research regression model are shown at following figure.  $H_0$  hypothesis and opposite hypothesis are also as:

- $H_0$ : Integrated model is suitable
- $H_1$ : Panel model is suitable.

**Table 9: The results of the fitted regression equation**

$$Risk_{it} = \alpha_0 + \beta_1 Performance_{it} + \beta_2 Debt_{it} + \beta_3 M/B_{it} + \beta_4 Size_{it} + \beta_5 Owner_{it} + \epsilon_{it}$$

Variables	Variable coefficient	Amount of coefficient	t	Significant
RISK(-1)	$B_1$	0.717690	11.83519	0.000
ROE	$B_2$	-0.001099	-0.634042	0.5265
ROA	$B_3$	-0.009254	-0.257714	0.7968
DEBT	$B_4$	0.029625	1.265093	0.2068
BMB	$B_5$	2.11	2.550507	0.0112
SIZE	$B_6$	0.044888	-2.457891	0.0145
OWNER	$B_7$	0.000118	0.499069	0.6181
C	$B_0$	0.567961	4.408892	0.000
Coefficient of determination	98.1%	F		144.10
Adjusted coefficient of determination	97.4%	P value		0.000
		DW		2.14

**Table 10: Output regression model analysis of variance**

The sum of squares error	F	Significant
1372.6	1.22	0.003

**Table 11: Errors independence test**

Regression model	N	Coefficient of determination	Adjusted coefficient of determination	Standard regression	DW
	96	0.17	0.04	1.80	2.08

#### 19.1. Method of Judgment

If at 95% confidence level (error of  $\alpha = 5\%$ ) the calculated statistics F from regression equation is less than F achieved from table,  $H_0$  hypothesis can't be rejected and otherwise  $H_1$  will be rejected that show at Table 12.

According to results of F statistic regression models is 0.78 that is not significant at 99% confidence level; in this way, it can be concluded  $H_0$  hypothesis (integrated model) will accepted and panel model will reject.

### 20. RESULTS OF FITTING REGRESSION MODEL

In this research below regression model is used to test assumptions:

$$Return_{it} = \alpha_0 + \beta_1 Performance_{it} + \beta_2 Debt_{it} + \beta_3 M/B_{it} + \beta_4 Size_{it} + \beta_5 Owner_{it} + \epsilon_{it}$$

After testing regression assumptions, results of fitting regression model is presented. Amount of F statistics (1.28) indicates significance of whole regression model. As is defined underneath the Table 13, determination coefficient and justified determination coefficient of above model are 17.3% and 4%. So it can be concluded that in mentioned regression equation, only 17.3% of investigated companies stock returns will determine by independent variables and mentioned control. In this table positive

(negative) numbers at coefficient column shows amount of direct (reverse) impact of each variables on investigated company's stock returns.

**20.1. Method of Judgment**

According to amount of t statistic and achieved significant level, if significant level is <0.05 independent variable coefficient will be meaningful. So that if absolute value of t statistic which calculated by statistics software is greater than t of table with degrees of freedom at 5% significant level, H<sub>0</sub> hypothesis will be rejected. Rejection of H<sub>0</sub> means significance of the independent variable impact on dependent variable.

**21. THE SUITABILITY TEST OF THIRD MODEL**

H<sub>0</sub> hypothesis and opposite hypothesis are as follow:

- H<sub>0</sub>: Regression model is not significant
- H<sub>1</sub>: Regression model is significant.

**21.1. Method of Judgment**

If at 95% significant level (error of α = 5%) calculated f statistic from regression model is less than F of results H<sub>0</sub> hypothesis cannot be rejected and otherwise H<sub>1</sub> will be rejected. it is clear that by rejecting H<sub>0</sub>, regression equation will be significant that show at Table 14.

According to above table since the significant level with F statistic is 1.09 and <5%. Thus, H<sub>0</sub> hypothesis is rejected and H<sub>1</sub> hypothesis will be confirmed based on significance of whole regression model.

**22. DURBIN-WATSON TEST**

Durbin-Watson test will test serial correlation between remained (errors) of regression based on this H<sub>0</sub> hypothesis:

- H<sub>0</sub>: There is not self-correlation between errors.
- H<sub>1</sub>: There is self-correlation between errors.

**Table 12: The results of Chow test**

Regression model	F	P	Results
	0.78	0.93	Approved of H <sub>0</sub>

**Table 13: The results of the fitted regression equation**

Return <sub>it</sub> = α <sub>0</sub> + β <sub>1</sub> Performance <sub>it</sub> + β <sub>2</sub> Debt <sub>it</sub> + β <sub>3</sub> M/B <sub>it</sub> + β <sub>4</sub> Size <sub>it</sub> + β <sub>5</sub> Owner <sub>it</sub> + ε <sub>it</sub>						
Variables	Variable coefficient	Amount of coefficient	t	Significant		
ROE	B <sub>2</sub>	-0.117465	-1.220521	0.2229		Not effective
ROA	B <sub>3</sub>	1.096530	0.622673	0.5338		Not effective
DEBT	B <sub>4</sub>	0.153891	0.130625	0.8961		Not effective
BMB	B <sub>5</sub>	-0.000156	-0.530698	0.5959		Not effective
SIZE	B <sub>6</sub>	-1.567662	-2.422025	0.0159		Effective
OWNER	B <sub>7</sub>	-0.004110	-0.435455	0.6635		Not effective
C	B <sub>0</sub>	-0.276470	2.412888	0.0163		Effective
coefficient of determination		17.3%	F	1.22		
Adjusted coefficient of determination		4%	P value	0.000		
			DW	2.08		

If Durbin-Watson statistic be among 1.5 and 2.5, test h<sub>0</sub> hypothesis (none self-correlation between errors) will be accepted and otherwise H<sub>1</sub> is confirmed. Durbin-Watson statistic with correlation coefficient, determination coefficient, justified determination coefficient and standard error is shown in Table 15.

According to mentioned figure, Durbin-Watson statistic is 1.62 for regression model of this research which is out of the space of 1.5 and 2.5. So H<sub>0</sub> hypothesis is confirmed based on absence of self-correlation between errors.

**23. CHOW TEST**

Results of f test for recent research regression model are shown at Table16. H<sub>0</sub> hypothesis and opposite hypothesis are also as follows:

- H<sub>0</sub>: integrated model is suitable
- H<sub>1</sub>: panel model is suitable.

**23.1. Method of Judgment**

If at 95% confidence level (error of α = 5%) the calculated statistics f from regression equation is less than f achieved from figure, H<sub>0</sub> hypothesis can't be rejected and otherwise H<sub>1</sub> will be rejected that show at Table 16.

According to results of F statistic regression models is 1.11 that is not significant at 99% confidence level; in this way, it can be concluded H<sub>0</sub> hypothesis (integrated model) will accepted and panel model will reject.

**24. RESULTS OF FITTING REGRESSION MODEL**

It this research below regression model is used to test assumptions:

$$DR_{it} = \alpha_0 + \beta_1 Performance_{it} + \beta_2 Debt_{it} + \beta_3 M/B_{it} + \beta_4 Size_{it} + \beta_5 Owner_{it} + \epsilon_{it}$$

After testing regression assumptions, results of fitting regression model is presented. Amount of F statistics (1.09) indicates significance of whole regression model. Determination coefficient and justified determination coefficient of above model are 0.224% and 2% respectively. So it can be concluded that in mentioned



regression equation, only 17.3% of changes in dividend ratio of companies surveyed will be expressed by independent variables and mentioned control. In this table positive (negative) numbers at coefficient column shows amount of direct (reverse) effect of each variable on dividend ratio of companies surveyed that show at Table 17.

### 24.1. Method of Judgment

According to amount of t statistic and achieved significant level, if significant level is <0.05 independent variable coefficient will be meaningful. so that if absolute value of t statistic which calculated by statistics software is greater than t of-table with degrees of freedom at 5% significant level, H<sub>0</sub> hypothesis will be rejected. Rejection of H<sub>0</sub> means significance of the independent variable impact on dependent variable.

## 25. ASSUMPTIONS TEST

Firs assumption: There is significant relationship between institutional ownership and stock price fluctuation at companies accepted in Tehran's stock exchange.

Regarding firs assumption, H<sub>0</sub> hypothesis and opposite hypothesis are as follow:

H<sub>0</sub>: There isn't any significant relationship between institutional ownership and stock price fluctuation at companies accepted in Tehran's stock exchange.

H<sub>1</sub>: There is a significant relationship between institutional ownership and stock price fluctuation at companies accepted in Tehran's stock exchange.

Significant level among two variables is 0.61, which is greater than considered significant level at presented research (5%); so at confidence level of 95%, H<sub>0</sub> hypothesis will be rejected based on existence of significant relationship between institutional ownership and stock price fluctuation at companies accepted in Tehran's stock exchange.

Second assumption: There is significant relationship between economic value added and composite lever of company.

Regarding second assumption, H<sub>0</sub> hypothesis and opposite hypothesis are as follow:

H<sub>0</sub>: There is no significant relationship between institutional ownership and stock returns at companies accepted in Tehran's stock exchange.

H<sub>1</sub>: There is a significant relationship between institutional ownership and stock returns at companies accepted in Tehran's stock exchange.

Significant level among two variables is 0.66, which is greater than considered significant level at presented research (5%); so at confidence level of 95%, H<sub>0</sub> hypothesis will be rejected based on existence of significant relationship between institutional ownership and stock returns at companies accepted in Tehran's stock exchange.

Third assumption: There is significant relationship between institutional ownership dividend ratios at companies accepted in Tehran's stock exchange.

Regarding third assumption, H<sub>0</sub> hypothesis and opposite hypothesis are as follow:

**Table 14: Output regression model analysis of variance**

The sum of squares error	F	Significant
625.94	1.09	0.026

**Table 15: Errors independence test**

Regression model	N	Coefficient of determination	Adjusted coefficient of determination	Standard regression	DW
	96	0.224	0.018	1.21	1.62

**Table 16: The results of Chow test**

Regression model	F	P	Results
	1.11	0.22	Approved of H <sub>0</sub>

**Table 17: The results of the fitted regression equation**

Return <sub>it</sub> = α <sub>0</sub> + β <sub>1</sub> Performance <sub>it</sub> + β <sub>2</sub> Debt <sub>it</sub> + β <sub>3</sub> M/B <sub>it</sub> + β <sub>4</sub> Size <sub>it</sub> + β <sub>5</sub> Owner <sub>it</sub> + ε <sub>it</sub>					
Variables	Variable coefficient	Amount of coefficient	t	Significant	
ROE	B <sub>2</sub>	-0.027609	-0.424803	0.6712	Not effective
ROA	B <sub>3</sub>	-1.233289	-1.037069	0.3003	Not effective
DEBT	B <sub>4</sub>	0.490276	0.616247	0.5381	Not effective
BMB	B <sub>5</sub>	2.74	0.137946	0.8903	Not effective
SIZE	B <sub>6</sub>	0.606874	1.388441	0.1657	Not effective
OWNER	B <sub>7</sub>	-0.015395	-2.415738	0.0161	Effective
C	B <sub>0</sub>	-3.035782	-1.169285	0.2429	Not effective
Coefficient of determination	22.4%	F		1.09	
Adjusted coefficient of determination	2%	P value		0.026	
		DW		1.62	

$H_0$ : There is a significant relationship between institutional ownership and dividend ratio at companies accepted in Tehran's stock exchange.

$H_1$ : There is no significant relationship between institutional ownership and dividend ratio at companies accepted in Tehran's stock exchange.

Significant level among two variables is 0.16, which is lower than considered significant level at presented research (5%). Therefore, hypothesis will be confirmed at confidence level of 95%,  $H_0$  based on existence of significant relationship between institutional ownership and dividend ratio at companies accepted in Tehran's stock exchange.

## REFERENCES

- Bayazidi, E., Oladi, B., Abbasi, N. (2010), Statistical Analysis MINITAB 16. 2<sup>nd</sup> ed. Tehran: Abed Publications.
- Benayed, M.R., Abaoud, E. (2006), Value Relevance of Accounting Earnings and the Information Contents: Empirical Evidence in Tunisian Stock Exchange.
- DeAngelo, H., DeAngelo, L., Stulz, R.M. (2006), Dividend policy and the earned/contributed capital mix: A test of the life-cycle theory. *Journal of Financial Economics*, 81, 227-254.
- Emaeili, S. (2006), The Relationship Between Earnings Quality and Stock Returns, Master Thesis, University of Allameh Tabatabai.
- Frankfurter, G.M., Wood, B.G. (2002), Dividend policy theories and their empirical tests. *International Review of Financial Analysis*, 11, 111-138.
- Shahnazarian, A. (2006), Investigate Correlation Between Dividend and Cash Flow in Companies Listed on the Tehran Stock Exchange, MS Thesis, Faculty of Management and Accounting, Shahid Beheshti University.
- Truong, T., Heaney, R. (2007), Largest shareholder and dividend policy around the world. *The Quarterly Review of Economics and Finance*, 47, 667-687.
- Weigand, R.A., Baker, H.K. (2009), Changing perspectives on distribution policy. *Managerial Finance*, 35(6), 479-492.